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BMC

Journal of the Canadian Health Libraries Association

Bibliotheca Medica Canadiana

Le journal de l'Association des bibliothèques de la santé du Canada

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Bibliotheca Medica Canadiana

Volume 14
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BIBLIOTHECA MEDICA CANADIANA

The **Bibliotheca Medica Canadiana** is a vehicle providing for increased communication among all health libraries and health sciences librarians in Canada. We have a special commitment to reach and assist the worker in the smaller, isolated health library.

The **Bibliotheca Medica Canadiana** is published 4 times per year by the Canadian Health Libraries Association. Opinions expressed herein are those of the contributors and the editor and not the **CHLA/ABSC**.

La **Bibliotheca Medica Canadiana** a pour objet de permettre une meilleure communication entre toutes les bibliothèques médicales et entre tous les bibliothécaires qui travaillant dans le secteur des sciences de la santé. Nous nous engageons tout particulièrement à atteindre et à aider ceux et celles qui travaillEnt dans les bibliothèques de petite taille et les bibliothèques relativement isolées.

Bibliotheca Medica Canadiana est publié 4 fois par année par l'Association des Bibliothèques de la Santé du Canada. Les articles paraissant dans **BMC** expriment l'opinion de leurs auteurs ou de la rédaction et non pas celle de l'Association.

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From The Editors

Peter Schoenberg

Sandra J. Shores

Two new editors, a new cover and more changes to come.

We feel very fortunate to have helped BMC in this transition to the new look. The changes are much more than cover deep. The use of a desktop publishing firm means that the editors' job descriptions now fit the job titles.

Diane Jewkes particularly deserves all our thanks for continuing to produce our journal from the data entry to page layout stages. She managed to produce high quality issues despite having an assistant editor thousands of miles away, and aging and temperamental computer equipment.

Other changes:

1) All articles in this issue were submitted on disk. Submission of articles on disk is now standard practice. BMC is produced using WORDPERFECT 5.1 software. If you cannot send a WordPerfect formatted disk, send the file in ASCII or DOS text. If you work in the user friendly world of Apple/ Macintosh please do a file conversion before sending the disk. A paper copy must accompany all disk submissions.

- Please send short submissions via ENVOY, rather than via Fax, if possible.

  Articles will still be accepted on paper but significant publication delays are to be expected.

2) Several articles in this issue are longer than the previous limit of 2100 words. Our new format gives us more room so the limit has been increased to 3500 words. If your submission cannot meet these limits please contact us.

In upcoming issues:

1) Book reviews

   Book reviews are planned as a regular part of future issues. Reviews of the full range of health information science products / formats are being considered.

   Book reviews will be of items of two categories:

   a) Canadian items, items produced by public sector organizations, items that might not receive national attention.

   b) Items of particular relevance produced by "mainstream" commercial publishers.

   The items in the New Books, Products section include examples of regionally produced Canadian items. We hope that reviewed items will be of interest to most readers because they will not have heard of them before.

   The challenge to the readers of BMC is twofold. First, to locate and forward relevant items to the editors and second to volunteer to review items. Reviewers will normally keep the reviewed book for personal or institutional use.

2) More letters to the editor

   Do you love/hate the new cover for BMC? Is there a local issue that you want help with? Share your bricks, bouquets, and monkeys!

3) Advertising

   Your comments on this topic are requested. How much is too much? How and where should it be placed in the journal? What restrictions should apply? We would welcome your contribution to the advertising policy, currently under development.

Two final points. We hope you enjoy the papers drawn from the Winnipeg conference and we hope you remember that the new cover is only as good as the articles it contains.

Your contributions are the building blocks from which this journal is constructed. ■

A Word from the President

Jennifer Bayne

Director, Library Services
The Toronto Hospital
(Toronto General Division)

Dear Colleagues,

As you'll have noticed, we have a whole new look! After many hard negotiations the Board, on your behalf, has chosen to contract with a desk-top publishing company called RE:Action to produce our association journal. I hope you agree with us that the new look will be an even greater testament to the fine quality of contributions BMC has always received since 1977.

I am confident that we can continue to attract association members to contribute to the journal, especially one which now has such a professional and attractive look. Your input is essential to ensuring the success of all association publications.

The decision to move to a desk-top published edition was due to several factors, most importantly the desire to alleviate the tremendous time and effort that was required by the editor to produce each issue of BMC. Current costs and obsolete computer equipment were also factors. The role of CHLA / ABSC Editor will undergo some change as a result of this shift. We hope that the position will become one of soliciting articles, editing them and providing creative input. This is not to suggest that this was not done by previous editors – but it was only one of a myriad of responsibilities! I was most familiar with the Herculean efforts made by Diane Jewkes, previous BMC editor. To her and all the editors before her, may I extend a huge thanks on behalf of us all.

Peter Schoenberg, our new editor, is now actively seeking contributors and will be asking all of you to submit articles on diskette, so that he may edit and send information to our publisher more easily. Of course, we'd love to get your feedback on this new look.

On quite another matter, the Board is in the process of re-examining our association's strategic direction and we would like to hear from you, either directly or through your local chapter. As you know, in 1986/87 the Board appointed a Strategic Planning Committee whose mandate was to identify a strategic direction for the association. Recently, in light of CHLA / ABSC's ongoing financial challenges, the Board recognized the need to do long-range planning based on association priorities and needs. We have always been a very active and productive group. However, with only limited time and resources we must re-identify where we will direct our energies. I ask you to re-read *Commitment to Change* and identify for us which goals and objectives you feel will continue to take priority over the next five years. Of course, please add others that you wish. We would also like to know specific action plans that you feel should be implemented. Because our deadline is relatively short, would you please respond as soon as possible to any of the association members or groups I mentioned.

I look forward to hearing from you and welcome, as always, any and all feedback. ■

Un Mot de la Présidente

Jennifer Bayne

Directrice des services de bibliothèque
The Toronto Hospital
(Toronto General Division)

Chers collègues,

D'abord, je dois vous prier d'excuser les erreurs que j'ai fait sans aucun doute en essayant d'écrire mon premier «mot» en français. Vous allez voir aussi que les contenus sont différents (et plus brefs).

Évidemment, le BMC a changé son aspect. Mais ça ne veux pas dire que les contenus ne sont pas si bons. En fait, j'espère que vous êtes du même avis que l'image actuelle complète les articles excellents que BMC a toujours reçu depuis 1977. Nous avons engagé une maison d'édition nommée RE:Action à publier la revue. Nous espérons que ce changement va rendre le rôle d'éditeur un peu plus moins bousculé et plus créatif.

Au nom de tous les membres du conseil d'administration de CHLA/ABSC, je ne saurais trop conseiller nos collègues francophones d'écrire et soumettre des articles en français à notre revue nouvelle. Vos soumissions sont indispensables au succès de toutes les publications de notre association, mais en particulier notre revue officielle.

Peter Schoenberg, nouveau éditeur, vous conseille vivement à lui envoyer vos soumissions sur disque, afin d'assister le procès de rédaction. Il veut vous encourager aussi de lui donner votre avis au sujet de la nouvelle publication. Peut-être nous devons commencer une colonne du rédacteur?

Je veux aussi vous informer de la décision du conseil d'administration de CHLA/ABSC de re-examiner la direction stratégique de l'association. Comme vous savez, en 1986/87 le conseil a nommé un comité dont le mandat était d'identifier cette direction. Le comité a produit un report nommé *Commitment to Change*, dans lequel sont les objectifs de l'association. Nous vous prions de re-lire ce report et fournir aux membres du conseil ou ta section locale vos avis de l'applicabilité des objectifs à l'association pendant les cinq années suivantes. Nous avons une organisation très active et ambitieuse, mais nos finances sont limitées. Nous devons re-identifier où nous allons appliquer notre énergie et ressources, et nous avons besoin de vos opinions. J'encourage mes collègues francophones en particulier à soumettre les idées sur objectifs nouveaux pour l'association. Si vous pouvez répondre avant Novembre, je serais reconnaissante. ■

In Memorium

The British Columbia library community was saddened recently by the death of one of its members, Lynne Hallonquist.

Lynne had been at Woodward Biomedical Library as the University of British Columbia's Life Sciences Bibliographer since her return from Ontario in 1979. She was a graduate of the UBC Library School and had worked at the Biomedical Branch Library at the Vancouver General Hospital for a short time before going to Ontario, where she spent ten years as librarian at the Board of Education and the University of Toronto.

Friends and colleagues across the country will miss Lynne's wonderful sense of humour, while those who worked closely with her will remember her fine work in reference and collections. As bibliographer for the Health Sciences Libraries Network at UBC, she pioneered the difficult art of shaping a collection shared by several institutions.

Lynne was active in the Canadian Health Libraries Association and in the Health Libraries Association of British Columbia, particularly in the field of library cooperation. In her personal life, she was an enthusiastic participant on various United Church committees.

A memorial service was held on Tuesday, August 4, 1992, at the West Point Grey United Church in Vancouver. Donations may be sent in Lynne's memory to the West Point Grey United Church, 4595 West 8th Avenue, Vancouver, B.C., V6R 2A4 or to the Women's Health Centre c/o University Hospital Foundation, 4500 Oak Street, Vancouver, B.C., V6H 3N1 ■

International Comparison of Health Care Systems

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Summary of a paper presented at the 1992 Canadian Health Libraries Association Conference in Winnipeg, Manitoba.

A global review of health care systems is far too massive a task to be attempted within the present confines, in anything like meaningful detail. Also, comparisons between the developed, the developing and the third worlds do not tell us very much, because their problems and possible solutions are so fundamentally different. I therefore confine myself to the developed countries of western Europe, the USA, and the Commonwealth countries of Canada, Australia and New Zealand, and even within these, shall focus on a few.

Within these, the USA stands out as an exception. The others have embraced what I shall term "Medicare" in one form or another, using the word in its Canadian sense, while recognising that it means something totally different south of our border. Health care systems in these countries share a common point of departure, though this has nowhere formally been stated in such terms. It includes a belief that there is a right to access to the national health care system, a right to care without significant financial barrier at the point of access, a shared responsibility for health care which is best fulfilled through support from general tax revenues, a responsibility to provide for disadvantaged individuals and groups, and an overall control by the state. The origins of these ideas can be traced back to the beginning of the century or a little earlier, but they came to full expression only in the century's second half, following the end of the second World War. A major stimulus was the exponential increase in health care technology, its possibilities, its problems and its expense.

The USA alone in the developed world stands outside, having not adopted such a health care system. Its problems are therefore different, and its internal debates of only partial relevance to us. Nevertheless, it is still possible to learn some useful lessons from its experience.

Taking Britain, Germany, France and Canada as our major examples, the systems that they have developed show differences and divergences which are superficial rather than fundamental. The British National Health Service (NHS) is the archetypal monolith; its cost, as a proportion of gross national product, is the lowest of our examples. Within the overall budget, there has traditionally been great freedom for doctors to order and control their own work. Administrative costs are very low; so is capital investment. The NHS is moving towards greater administrative control by non-physicians, and a form of internal competition, but it is too early to predict results.

In Germany a multiplicity of "Krankenkassen" – sickness funds – gives an illusion of freedom and competition, but in fact most people are locked into one by their job, and again there is great freedom for professionals within the overall system. France has a centralised "Securité Sociale" – SECU – with significant co-payment by those who can afford it, and again, great latitude for professionals within the system. We are familiar with Canadian Medicare, and its principles of universality, accessibility, porta-

bility, comprehensiveness and public administration.

All these share common problems, which I can summarise only very briefly. There is the exponential increase in health care technology, and consequent cost. Changes in demography give an increasing proportion of old people, who are sicker and need more health care, and a lessening number in the productive years to support them. There is no definition of what medicare is supposed to do, to achieve, of aims and objectives in concrete, measurable terms, and the vague wafflings of the World Health Organisation (WHO) bring only greater obfuscation. There is pervasive lack of reliable, appropriate information, particularly knowledge of outcomes, and of planning and management. Vested interests – "stakeholders", which should be a pejorative and derisive term[1] – clamour and fight over territory, and single issue groups add to the cacophony. Health care is deeply politicised, and decisions routinely are made for reasons of political advantage rather than those having any relation to health. Deficit financing by governments and increasing national debts bring a pervasive squeeze on costs which have not risen in relation to the GNP.

These health care systems seem to me in a state of convergent evolution, based on their shared if largely unstated basic principles, and common problems. The bottom line is that needs and demands for slices of the pie, have come to add up to more than the pie itself; that needs are infinite, but budgets are finite and the share allocated to health care static or declining in real terms. The end result, the bottom line, is that not everyone will be able to have, from publicly funded health care, everything which might benefit them, and for this the dirty word is rationing of health care.

Rationing is the sharing of a common pool of resources, between members of a group, when the pool is not big enough to supply all individual needs. One result of health care rationing is that some will suffer more, and some will die earlier than they might have done. Decision making is a hard and bitter business, and its effects can be tragic. In such circumstances, the ethical, moral basis on which decisions are made is of supreme importance, and this is one of the foundations for what has come to be called "bioethics". Much of its inverted pyramid rests upon the single, simple question; "It's not can we do it; it's should we do it?" Also, deciding who makes the decisions, on what authority, with what input matters a great deal. At present, within our own Canadian Medicare, there is no stated or generally accepted moral basis for such decisions. They are made almost entirely by politicians, or by civil servants, bureaucrats and administrators, on no stated ethical basis, and most often anonymously and without attributed responsibility. Public opinion may be sampled by occasional, "one-off" surveys[2,3], the key recommendations of which are mostly rejected, but there is no on-going, continuing input from the public, of the priorities they assign to choices in health care.

International Comparison of Health Care Systems

(continued)

Trends within these converging systems include forms of internal competition and tighter management. Exclusions from coverage may be specific, and include controversial procedures such as abortion, or those deemed not truly therapeutic such as cosmetic surgery. Choice of such procedures often reflects the predominantly middle-aged, middle class male make-up of our legislative assemblies, the beliefs, prejudices and psychological hang-ups of this minority group, rather than the wishes of the general public or of other significant groups within it. Rationing may be by limitation of personnel, such as doctors; the provincial governments have agreed to reduce the number of physicians and specialists, and with unusual honesty stated that this has no basis in known optima, but is an arbitrary decision made impurely for financial reasons[4]. Such decisions result in rationing by limiting access, by developing a queue or line-up for treatment, and are extended to other health care personnel, supply of equipment and availability of procedures. Again, such decisions are more often made for perceptible political grounds, than for detectable health-based reasons.

The likely outcome is that all these systems will evolve towards a common pattern, though this will take a long time[5]. The state system will provide universal, basic coverage and for catastrophic and emergency situations. Its priorities and allocation in rank order may be wholly or in part decided by public participation on the model pioneered in Oregon, as decisions become so unpalatable and bitter, and lose their "pork-barrel" component, that politicians and civil servants become less keen to be seen making them[6]. This could extend to negotiation of a social contract, a philosophy of health care which takes into account its longitudinal nature, and agreed upon limits appropriate at life's different stages and its inevitable end. There may be an emphasis on duty and responsibility in health care, to balance our present rhetoric limited almost exclusively to rights[7]. Better management will become crucial; definition of aims and objectives in tight, measurable terms, determinations of outcome, and the technology of information essential for this.

In Canada, we shall have to abandon our hypocrisy and face up honestly to the issue of a second tier of health care; its legality, organisation and supervision. At present, our unctuous and self-conscious virture depends on the availability of a free market system of health care, south of that great undefended border with the USA. The Canadian who wishes to and can pay for a service which is either not available under Canadian Medicare, or for which the queue is too long, or of which the perceived quality is less than optimal, or for any other reason, can buy it there freely with minimal delay. The example is set daily by Premiers, various politicians, and the rest who are more equal than others. Nations lacking this facility, such as Britain, have honestly accepted and provided for the second tier of private health insurance. At some point, we shall be forced into doing the same.

Elsewhere, the influence of the European Economic Community

(EEC) may push towards common standards and greater uniformity. Rationing is a pejorative term, with its overtones of control, limitation and deprivation. It is not necessarily or entirely a negative phenomenon. One effect of food rationing in Britain during the 1939-45 war was a population with a better average level of nutrition than had ever been achieved before – or, I suspect since. Rationing forces people to look at and define their priorities, and this should be based on moral belief. Callahan has suggested that if the USA ever introduces a national, universal health service along the lines of other developed nations, that rationing is a pre-requisite which must be admitted, accepted and designed into the system from its very beginning[8]. This is indeed convergent evolution. ■

International Comparison of Health Care Systems

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SatelLife: Building Electronic Bridges

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Presented at the 1992 Canadian Health Libraries Association Conference in Winnipeg, Manitoba

This presentation offers an overview of SatelLife's HealthNet project – our mission and operation – which I hope will set the stage for your contribution as bridge builders.

Last summer I made a presentation at the biennial congress of the Association for Health Information and Libraries in Africa. I ended my talk with a quote from Antoine de Saint-Exupery's *Wartime Writings*.

> *"It is true that technological progress in modern times has linked people together like a complex nervous system. The means of travel are numerous and communication is instantaneous. We are joined together like cells of a single body, but this body as yet has no soul."*

I then went on to talk about SatelLife's mission in democratizing information, closing with the hope that the next chapters in the SatelLife story would be about information and people and would be created in part by the librarians and information providers in the audience. Their stories, I knew, would speak for themselves.

I have come to you today with some stories. I wish the people whose stories I'm relating were here – I'm sure they would inspire you as they have us.

Regina Shakakata, medical librarian at the University of Zambia Medical School, and Lenny Rhine at the Health Sciences Library at the University of Florida in Gainesville are pioneers in SatelLife's library partnership program. Its inauguration was simple but significant – Lenny located some abstracts Regina had requested on HIV and AIDS.

Lenny wrote to us:

> *"I have located three of the four abstracts in Medline CD-ROM. The fourth has been requested by Interlibrary Loan . . . . I have asked Regina to forward any other abstract requests and also asked if she wants me to mail or possibly fax the whole articles. Let's hope this is a successful start to the Sister-Library program. I'll send you a message as soon as I receive a response."*

We heard through Mark Bennett, systems operator and project manager in Zambia, the following:

> *"The response from Lenny has already been impressive, and Regina is making use of the service, having received the first batch of abstracts from Florida and sent off several further requests. I think this will be a very good advertisement for HealthNet, and the kind of thing people need to see from the beginning to realize how worthwhile and viable things will be."*

What is SatelLife?

SatelLife was conceived in 1985 by the Nobel Peace Prize winning organization – International Physicians for the Prevention of Nuclear War (IPPNW). IPPNW realized that the voices of medical colleagues in the southern hemisphere were often missing in the global forum on issues of peace and health. As East-West tensions diminished, North-South disparities loomed larger than ever. Although an inexpensive, reliable communication system would not solve all problems, it could give physicians and healthcare workers in both hemispheres a means by which they could problem-solve together.

SatelLife came into being in 1989 as a small but international organization committed to building those partnerships in order to facilitate exchange of health information.

SatelLife is a non-profit organization, headquartered in Cambridge, Massachusetts. Our mission is to improve communication and access to medical information for physicians, researchers, and healthcare providers who work in countries where access is severely limited by existing communications infrastructures and economic conditions.

What is HealthNet?

SatelLife's **HealthNet** is a telecommunications system for the exchange of information by health professionals in developing world countries. Users employ HealthNet to send electronic mail carried by a "store and forward" satellite called HealthSat. As a result, those participating can make connections with each other, with their colleagues abroad, and with vital sources of information. More on the satellite system later.

SatelLife's initial efforts have been focused on a pilot project with seven nations in Africa. SatelLife ground stations, which send and receive messages from the satellite, have been installed and made operational in Zambia, Uganda, Tanzania, Kenya, Mozambique, the Congo, and Zimbabwe.

The Need:

Let me back up just a bit to talk about need and context. The first transmission of medical information on HealthNet was an article from **The New England Journal of Medicine**, published in the summer of 1990, entitled "A Randomized, Controlled Trial of Vitamin A in Children with Severe Measles." Measles is a deadly disease for children in developing world countries, and Vitamin A is readily available everywhere, even in the poorest of countries. Although the research for this article was conducted in Africa, we found that months after publication, pediatricians we spoke with were not aware of it.

Subscriptions to leading medical journals are extremely costly for libraries in developing world countries. When a library is able to purchase journals, they often arrive by mail months after publication, if they arrive at all. After they are placed in the library's collection, users often rip out pages, so desperate is the need for information.

SatelLife:
Building Electronic Bridges

(continued)

On top of all of this, the climate plays a significant role in the deterioration of paper copies.

Electronic Publishing as Alternative to Paper:

The average American medical school has 3,000 subscriptions in its periodical collection. Surveys have shown medical schools in developing world countries may have between 30 and 300 titles. Under pressure of International Monetary Fund structural adjustments, many African medical libraries have been forced to cancel all subscriptions to medical literature requiring foreign currency. For example, the University of Ghana medical school library periodical subscriptions fell from 435 in 1972 to 51 in 1983. The medical library of Makerere University in Uganda reports a decade-long gap in its periodical collection.

In these countries, where traditional publishing resources are scarce or nonexistent, the medium of electronic publishing could prove a viable alternative. However, health care professionals are not only facing the continuing erosion of basic information resources – books, journals, and other materials – but also isolation from new technologies that make comprehensive information services available in industrialized nations.

In Africa, the need for electronic mail not dependent on traditional communications infrastructures is desperate. In Zambia, international calls are billed at US$6 per minute. In Kenya, an outgoing fax can cost US$7.70 for the first page. In Tanzania, a notice on a bulletin board in the medical school announced the minimal cost of a telex at a little more than US$25. These services are expensive, especially when the salary of a physician may be US$50 a week.

Dr. Gottlieb Monekosso, Director of the World Health Organization's Regional Office for Africa, told us:

> *"Establishing reliable communications may be one of the most important priorities for improving health in Africa."*

For these reasons, SatelLife's initial efforts have been focused on the 7-nation pilot project in Africa.

HealthNet Information Service:

I would like to describe the HealthNet Information Service – the realities of the present and strategies for the future – and invite your ideas and discussion.

Our service – by design – is cooperative and interactive, driven by the needs and resources of its users. The ability of the system to transmit information in small bites or in bulk makes many applications possible.

The Users Council in Zambia, for example, wants to engage the system for the following purposes:

- Electronic mail and conferencing (local and international)
- Distribution of international and local publications
- Distance learning
- Publicizing health news (for example, adverse drug reactions)

- Epidemiological data transmission (local and internationally via the World Health Organization)
- Referrals and consultations (support for clinical care and new doctors)
- Management of information (drug, personnel)
- Data collection and distribution of statistics

We have found that by setting up HealthNet, SatelLife has become a catalyst for new international partnerships:

Library partnership program:

SatelLife has initiated groups of medical librarians and health-related institutions in Africa, Great Britain, Europe, South America, and the United States. We look forward to your participation here in Canada.

Approximately 40 libraries around the world are interested in responding to information requests originating from participating medical libraries in Africa. This "sister library" concept encourages collegial relationships for the two-way exchange of information to the benefit of participants on both sides of the satellite.

For example, Carlos Morel of the Oswaldo Cruz Institute in Rio de Janeiro is in contact with colleagues in Mozambique in order to facilitate information exchange in Portuguese. A letter from SatelLife Board member Paulo Krahe in Brazil told us:

"We think that we can give a substantial contribution to **HealthNet News** *by sending for free distribution the current contents of the Oswaldo Cruz Institute . . . . We also think that South-South information interchange could be fostered through distribution of Fiocruz abstracts and papers of ongoing research in topics related to tropical diseases."*

In Great Britain, an active group of representatives from medical libraries and medical institutions has formed SatelLife UK for the purpose of setting up a British and European gateway for HealthNet and recruiting appropriate information providers in the UK and Europe. SatelLife UK is established as an organization with a steering committee, bank account, and fundraising team. Michael Carmel at the SouthWest Thames Health Authority who was instrumental in founding SatelLife UK serves as its Secretariat. Michael and Helga Patrikios, medical librarian at the University of Zimbabwe, will be presenting SatelLife at the European Association of Health Information Libraries in Montpelier in September.

Database:

As part of the HealthNet Information Service, SatelLife is creating a database that will enable us to know our users and see that the system is responding to their interests. Along with each request, the user will describe the purpose of the request, depth of information requested, preferred sources of information

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(continued)

and reasons why, and time constraints.

This database will support librarian engagement, assist in controlling growth, and enable us to address topics of particular interest in **HealthNet News**. Using this database, we can evaluate our progress.

HealthNet News:

HealthNet News is an electronic publication that is beginning to be broadcast to the countries in our pilot project. **HealthNet News** contains relevant full text articles, journal article summaries, and commissioned articles. Designed as an interactive publication, the content of **HealthNet News** will be shaped in collaboration with users, an international editorial board, and internationally known research institutes (such as the Oswaldo Cruz Institute, the Liverpool School of Tropical Medicine, Harvard School of Public Health, Massachusetts General Hospital, and the Centers for Disease Control).

HealthNet News is edited by Dr. Ramnik Xavier of the Massachusetts General Hospital and the Harvard Medical School and was inaugurated on March 20, 1992, by the Queen of England from our U.K./European gateway station at Surrey Satellite Technology Ltd. Our colleagues in Zambia officially opened their ground station which has been receiving and transmitting messages to and from our satellite since June, 1991. President Chiluba of Zambia exchanged greetings with Queen Elizabeth.

The first issue contained articles from **The New England Journal of Medicine** and summaries from **Journal Watch**; the Massachusetts Medical Society has given SatelLife permission to distribute archival and current articles from these publications and **AIDS Clinical Care** free of charge. The publishers of **Annals of Internal Medicine** granted permission for our use of "Predictors of Mortality among HIV-infected Women in Kigali, Rwanda" and have expressed strong interest in making additional contributions. Five physicians from the Massachusetts General Hospital and the Harvard School of Public Health contributed articles. We are continuing to engage publishers in our mission and would welcome your ideas.

Consultation:

HealthNet will provide on-call access to organizations and institutions who are interested in providing both clinical and public health consultation via satellite.

CD-ROM:

We want to incorporate CD-ROM players as part of the SatelLife ground station. The availability of CD-ROM allows participants to perform and share information on site. This way, initial research on MEDLINE and archival retrieval of abstracts can be accomplished locally. After reviewing an abstract, someone using the system may choose whether or not to acquire the full text article.

On this component of the HealthNet Information Service, we are collaborating with the Health Foundation in New York City which is supplying a CD-ROM setup to

Regina Shakakata, in Zambia. The Health Foundation's CD-ROM project includes a number of the countries in which SatelLife has or will have ground stations. Additionally, CD-ROM players and disks are included as part of the recent grant SatelLife received from the International Development Research Centre (IDRC) here in Canada. IDRC has been a wonderful supporter of SatelLife and a partner in our mission.

Use of HealthNet by Intermediaries:

I'm using this term to refer to agencies who want to use our system / service to facilitate their health agenda. Last July while in the U.K. I went to visit a SatelLife board member. At the end of our chat, he posed the question we must all face as we move forward with the SatelLife mission: How does it help a physician in a developing country to have information about a vaccine, for example, if she does not have access to that vaccine? We believe the use of our system by agencies can begin to address that issue.

For example:

The Africa region of the World Health Organization wants to use our system to connect the regional office in Brazzaville with forty-four country offices – one-third of which this office can't communicate with at all.

The Expanded Program on Immunization (EPI) of WHO, UNDP, and the World Bank believes that SatelLife can play a critical role in achieving their goal – to eliminate polio by the year 2000. HealthSat's ability to collect data for thousands of rural and isolated sites around the world will greatly enhance EPI's efforts to eliminate polio and measles.

Tropical Disease Research Program (of WHO and UNDP) for laboratories in developing countries wants to use the system to share research related to field projects – for example, a seven country study on reducing propagation of malaria.

Needs Evaluation and Project Evaluation:

What do people using the HealthNet system want and have we been able to provide them with the information and communication capabilities they need?

To improve SatelLife decision making and planning, we want systematically to engage HealthNet participants in telling us what they want. We will do this through:

- focus groups
- critical incident techniques
- user logs
- conferences
- group process surveys

Evaluation of the HealthNet Information Service will take into account:

- extensiveness of the service
- efficiency - cost
- effectiveness - quality
- impact - how has the service made a difference

We want to be able to address the question: Does the network make a difference in terms of health?

SatelLife: Building Electronic Bridges

(continued)

SatelLife:
Building Electronic Bridges

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Back to That Satellite I Mentioned Earlier:

Our satellite – UoSat 3 – was built by Surrey Satellite Technology Ltd. in the U.K. It was launched by Arianespace from French Guiana in 1990.

Packet-satellite is a new application of three proven technologies – personal computer, packet-radio, and "store and forward" satellite.

Packet-satellite connects a ground station composed of a radio and a computer to a satellite. The satellite is small, about 100 pounds in weight, a bit bigger than a beachball – think of it as a mail carrier. Also, it is not geostationary like its large communications cousins but orbits the earth pole to pole about once every 90 minutes, travelling at 17,000 miles per hour, in what is called a "low earth orbit" – just 500 miles up.

The user sends a message composed at the ground station's computer via a radio (similar to a "ham" radio) to a computer in the satellite (uplinking). The satellite's computer "stores" the message. When the satellite comes overhead the ground station for which the message is destined, it then "forwards" the message to that station (downlinking). Hence, the term "store and forward" satellite.

To receive messages, the satellite automatically signals a ground station as it passes over, inquiring if there are out-going messages. If so, the radio attached to the computer uplinks the message to the satellite. If there are incoming messages, the satellite downloads them to the computer on the ground.

At Memorial University in St. John's, Newfoundland, home of our long time Board member Dr. Max House, we have a "gateway" station set up to handle Africa bound messages to and from the satellite for the U.S. and Canada. A similar gateway for the U.K. and Europe is at Surrey Satellite Technology Ltd. in Guildford, Surrey.

Let me digress briefly on the subject of geostationary satellites for purposes of comparison. The geostationary satellites which carry telephone calls to Africa may weigh several tons, cost from $200 million to $400 million to build, $10 million to $20 million to launch, and often require powerful ground stations to carry signals to an orbit 22,500 miles up. Our packet satellite weighs about 100 pounds, can be reached by inexpensive radios in its 500 mile orbit, costs less than $1 million to manufacture, and was piggy-backed for launch into space for around $200,000.

Because HealthNet does not depend on international telecommunication links, it does not matter if a country's circuits are congested, if charges for service are unaffordable, or even if service is frequently disrupted.

Ground station hardware and software costs about $7,500, making this technology affordable, sustainable, and usable for almost any country in the developing world. HealthNet ground stations are licensed and operational in Zambia, Uganda, Tanzania, Kenya, Mozambique, the Congo, and Canada.

End:

Almost a century ago, Henry Adams of the American Adams family described the dynamo as an icon of the 19th century.

"He found himself lying in the Gallery of Machines at the Great Exposition of 1900, his historical neck broken by the sudden eruption of forces totally new . . . to Adams the dynamo became a symbol of infinity. As he grew accustomed to the great gallery of machines, he began to feel the forty-foot dynamo as a moral force . . . . The planet itself seemed less impressive, in its old-fashioned, deliberate, annual or daily revolution, than this huge wheel, revolving within arm's length at some vertiginous speed, and barely murmuring – scarcely humming an audible warning to stand a hair's-breadth further for respect of power – while it would not wake the baby lying close against its frame. . . . Among the thousand symbols of ultimate energy, the dynamo was not so human as some, but it was the most expressive."

As we stand at the end of the 20th century, we welcome your thoughts on content, on information, on how we can be most creative with our expressive medium. ■

SatelLife:
Building Electronic Bridges

(continued)

Presented at the 1992 Canadian Health Libraries Association conference in Winnipeg, Manitoba.

New Frontiers in the Electronic Management of Information at the Medical College of Wisconsin

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Goals

The Medical College of Wisconsin (MCW) Libraries are expected to acquire, organize, and make available both print and non-print information resources which are needed for teaching, research, patient care, and ancillary services in the nursing and allied health sciences field at the Milwaukee Regional Medical Center, as well as academic, research, and administrative functions. The MCW Libraries are considered to be an integral part of the health sciences programs at the Medical College of Wisconsin, which is a private institution located on the grounds of the Milwaukee Regional Medical Center. Currently, there are 800 students, including 70 at the graduate level. The College has over 600 faculty members. The health sciences programs include the undergraduate medical programs, the division of Graduate Studies, and the graduate medical education programs at the affiliated hospitals. The Library also plays a fundamental role in providing vital resources and services to students in the health care professions in other institutions of higher learning in Southeastern Wisconsin and Northern Illinois.

In the Fall of 1988, Dr. Richard Cooper, Executive Vice President and Dean of the Medical College of Wisconsin formed the Health Information Technology Center (HITC) Committee. The Committee was formed for the purpose of planning a new HITC building which will house a new Library, the Computer Center, Student Affairs, Bioethics, the Dean's Office, and a number of College-owned hospital-based databases. The HITC is another word for an IAIMS project (Integrated Academic Information Management System) whose goal is to integrate all of the College's information resources, as well as provide dial-in access to remote users.

The Health Information Technology Center of the Medical College of Wisconsin is an integrated information management and communications organization that employs state-of-the-art information technologies in support of basic science and clinical research, educational programs and the delivery of health care. The mission of the Health Information Technology Center is to provide access to research databases, information networks, library facilities, consultative services, and other information resources, and to facilitate interactions of the College with institutions and organizations concerned with medical research, education, and service. One way to fulfil this mission is through the creation of an electronic information network.

The electronic component of the new Library is called the Medical Information Network, or MIN. The Library has been acquiring CD-ROM based databases since May of 1988 when Medline was offered on a single-user workstation. In May of 1989, ISI's Current Contents on Disk, Life Sciences Edition, and

Science Citation Index were also added. Planning for an integrated library system (ILS) began at about this same time.

History

The Medline system was an immediate success and was in almost constant use. From May of 1988 through December of 1989, the workstation was in use approximately 15 out of the 16.5 hours that the Library was open with an average of 29 users per day. This generated complaints from users who had to reserve a time slot and be physically present in the Library to use Medline. These problems were particularly acute for faculty, primary care physicians, and residents who spend most of their time in the hospitals affiliated with MCW.

The Milwaukee Regional Medical Center is comprised of eight health care institutions, not physically connected in most cases, including the Milwaukee County Medical Complex, Froedtert Memorial Lutheran Hospital, Children's Hospital, the Eye Institute, the Curative Rehabilitation Center, the Mental Health Complex, the Blood Center of Southeastern Wisconsin, and the Medical College of Wisconsin. The Todd Wehr Library is located on the third floor of the Medical Education Building. There are three primary teaching hospitals on the grounds, all of which are located approximately one to two city blocks from the Library. Physicians and researchers based in these hospitals found it difficult to come to the Library to use the Medline workstation.

Several options were explored, and with the help of the college's Management Information Systems (MIS) department, the Medline CD-ROM's were hooked up to the campus VAX using a device called a "V-Server" from Virtual Microsystems. The V-Server is a device that contains four 286 PC based processing cells and allows any VT compatible VAX terminal to run PC based applications. The only hardware needed was a CD-ROM drive and controller. The memory on the V-server had to be upgraded as well. This solved the problem of remote access since users could dial the system with a PC or MAC equipped with a modem and terminal emulation software such as Procomm or Smartcom. The dial-in CD-ROM Medline was made available in July 1989 to faculty, staff, and students of the Medical College of Wisconsin. For security reasons, all users were required to have their own user account and password. To register, users filled out an application form and were issued an account by the MIS department. At this same time, the Library also added stand-alone workstations for the AIDS-Compact Library and CINAHL.

The system was very popular with patrons, but the dial-in access was limited to one user at a time. In August 1990, the Library purchased a Plusnet II Medline system from CD-Plus. The new system allowed 12 users to access Medline at the same time, as well as providing a menu driven search engine that made searching easier. After beta testing, the system became available to patrons in January 1991. In March, the Library added the

New Frontiers in the Electronic Management of Information at the Medical College of Wisconsin

(continued)

Health, Cancerlit, and CINAHL databases as well. In August, another database system was implemented.

The Starport system became operational in June 1991 using a Starport system by Gandalf Data and a Novell 386 file server. The first database to be offered was ISI's Current Contents, both the Life Sciences and Clinical Medicine editions. In addition to these systems, the Library selected Innovated Interfaces as the vendor for our Integrated Library System. The bibliographic records were loaded in January 1992 and the book portion of all four MCW Libraries became available to the public June 1992. The circulation module will be implemented sometime this Fall.

As mentioned earlier, the Medical Information Network (MIN) is a subsystem of the Campus Wide Information System developed under the Health Information Technology Center (HITC). The Milwaukee Regional Medical Center Campus is networked via a fibre optic backbone operating under DECnet. Several hundred computers including mainframes, PCs, MACs, and terminals are connected to the backbone including Local Area Networks running Novell, Appletalk, and Pathworks. The goal of the MIN is to provide access to the services of the HITC from each connected computer, or via modem from remote sites. Also, because the campus is connected to the INTERNET, other remote sites can access the MIN via Telnet.

Technical Aspects

From a technical point of view, the MIN is designed as a subnetwork of the campus based network. The entire system is physically located in the Library and was planned, implemented, and is maintained by the Library Systems Office. Ethernet thinnet connects 34 workstations and 19 terminals in the Library with three Novell file servers running Netware 386 Version 3.11 and a DECsystem 5100 running ULTRIX 4.1. There is a file server for the Library's computer needs, one for CD-PLUS, and one for Starport. The DEC machine is used for the ILS.

Different network protocols are used on the same LAN. To access the Novell file servers (PCs) communicate via IPX. When using the ILS or accessing the INTERNET, PCs communicate via TCP/IP. The Plusnet portion of the MIN uses a turnkey system developed by CD-PLUS, Inc. This Novell based system allows 20 simultaneous users to search the four databases, Medline, Health, Cancerlit, and CINAHL from a remote site. Four workstations are also available in the Library's Computer Center. For remote users, searches are done on a Remote Access Unit (RAU) 386 diskless workstation connected to the Library LAN. The RAU communicates with the remote site via PC-Anywhere IV through a serial line. Local users on the Library Staff can connect directly to Plusnet via the Novell Netware Shell.

Starport from Gandalf Systems, Inc. allows remote multi-user access to various DOS based CD-

ROM databases and locally produced text bulletins. The Starport system includes a Meridian CD-NET tower that contains Science Citation Index and QMR – Quick Medical Reference. The system also provides access to Current Contents on Diskette, Life Sciences and Clinical Medicine editions, NLM Clinical Alerts, NIH Grants Guide, MCW CME Calendar, and the Library's schedule of computer and database searching classes. For remote users, searches are done on an Application Processor (AP), a diskless 286 PC on one board, running DOS and acting as a LAN workstation. Local users on the Library Staff can connect directly to Starport via the Novell Netware shell. Our current configuration has 11 APs which allows 22 simultaneous remote users access to the CD-NET and other data.

The Integrated Library System is Innovative Interfaces INNOPAC / INNOVACQ catalog. The ILS runs on a DECsystem 5100 under the ULTRIX 4.1 operating system. Users can access the ILS from terminals in all four MCW Libraries, from the campus network, INTERNET, or via dial-in by modem. Library Staff can access the ILS from their Pcs using Smarterm 340 software which allows access at over 19,000 baud.

The three Library components of the MIN are integrated through the Gandalf Access Server. The Access Server is a communication server that can handle both the LAT and TCP / IP protocols. It connects requests from the campus backbone to the requested MIN service with the appropriate subsystem (LAT or TCP/IP service). The Access Server also has the ability to create a simple front-end menu which integrates the different subsystems of the MIN. Because the MIN is the first and most visible component of the Campus Wide Information System, the menu now incorporates the MIS Department's campus-wide E-mail system. As development continues, new approaches, new systems, and other applications can be added, and the MIN can serve as the "front door" to many of the college's information systems.

User Statistics

There are now 2771 individuals with accounts on the PLUSNET system. Each user has a unique login name and password. Passwords on the system must be changed every six months for security reasons. The site license for the databases requires that 80% of our users be affiliated with MCW as faculty, staff, student, or employee of an affiliated hospital. Of these, 19% are MCW faculty, 13% are MCW staff, 28% are students, 17% are residents and fellows, 13% are employees of the hospitals at the Milwaukee Regional Medical Center, and 10% are remote users at the affiliated hospitals around Southeastern Wisconsin and Northern Illinois. The number of users has grown from 448 in January, 1991 at the rate of about 200 applicants per month. Currently, there are an average of 53 users logging in per day with the number of simultaneous users reaching a maximum of up to 19. The system could support 25 simultaneous logins.

New Frontiers in the Electronic Management of Information at the Medical College of Wisconsin

(continued)

There are now 1238 individuals with accounts on the Starport system. Of these 14% are MCW faculty, 15% are MCW staff, 32% are students, 12% are residents and fellows, and 17% are employees of the hospitals at the Milwaukee Regional Medical Center, and 11% are remote users at the affiliated hospitals. Current Contents and Quick Medical reference are the most frequently searched databases on the Starport system.

The MIN serves the information needs of 40 health related institutions within a 300 mile radius of Milwaukee. Outreach to remote sites is among the goals of the HITC, and a subset of the total MIN project. There are plans for further marketing of the system and user training planned for the future. Exploration of clinical information systems and a Bioethics component including a database, bulletin board, and bibliography are also in progress. Systems like WAIS and GOPHER are being evaluated and projects for incorporating links between them and the MIN databases are being explored.

Conclusion

With the advent of new electronic forms of information, new forms of publishing including electronic journals, and the rapid spread of INTERNET use in the academic community, there are many challenges for libraries and librarians in using and helping others to use these new technologies. The role of the librarian will change as more patrons become end-users of electronic information systems. Librarians must become managers of the information on such systems and provide written instructions and training. Librarians must become more technically oriented to provide the support necessary for users to search databases produced by different vendors, as well as provide information on the proper hardware and software required to access information remotely. The Medical Information Network will continue to evolve to keep pace with the information needs of health care professionals in Southeastern Wisconsin. ■

Student Paper Prize Winner for 1992

Information-Seeking Patterns of Health Science Professionals

Jennifer M. Blythe

Graduating in November 1992 from the Faculty of Library and Information Science, University of Toronto

The bottom line... is that you do first what you have to do (medical student[15])

If librarians are to meet the information needs of their clientele, they must know what those needs are. They also need to know which of the services they offer are useful and whether inadequate ones can be modified or replaced.

The purpose of this paper is to review the literature on the information-seeking behaviour of health science professionals and to inquire whether currently available resources and services are successful in satisfying their information needs. It focuses on practising health workers rather than researchers and concentrates on three areas: the pattern and context of information-seeking; the type of information sought; and the adequacy of contemporary resources for supplying that information. It concludes that practitioners find information relatively inaccessible and discusses the implication of this finding for libraries.

Patterns of Information Seeking

For the computer-oriented information scientist, information is anything that can be digitally encoded. The information required by health professionals is of a more socialized and focused order. They need knowledge - specialized and relevant information - to enable them to make professional judgements. Individuals are aware of some of their knowledge requirements and they can choose whether to pursue them. Other needs are not recognized and can only be defined by outside experts who are able to detect deficiencies in expertise. While not entirely ignoring unconscious needs, this paper will primarily be concerned with intentional information-seeking which Krikalas[11] defines as "any activity that is undertaken to identify a message that satisfies a perceived need."

Physicians and other health-workers acquire the information needed to enhance their performance from a number of sources. Formal CE courses as well as "mass media, practical experience with patients, audiovisual programs, journals, text books, pharmaceutical representatives, colleagues, specialists, and computerized databases"[8] are important. Gruppen[8] briefly summarizes several studies that rank the information sources used by physicians in order of preference. They correlate favoured sources with data about the subject's age, time since certification, type of institution, and geographical location. Though results are not entirely consistent among the studies, certain patterns emerge. For example, younger physicians and specialists favour journals while older doctors and general practitioners prefer CE courses and rely more on pharmaceutical representatives for information about new products. Younger physicians consult their colleagues more than older ones and urban practitioners more than rural ones[27]. Use of sources varies with practice charac-

teristics as internists and those in group practices make more use of both literature and consultation than those in solo practices[8].

Because consultation is such an important aspect of information-seeking in the health sciences professions, some research has focused specifically on sources of oral information as a means of examining the diffusion of innovations among colleagues. Preliminary studies made of networks among both physicians[31] and mental health workers[25] reveal the importance of opinion leaders in disseminating new ideas.

Though the various surveys reveal interesting patterns of information use and sharing, their authors make no attempt to explain them. They do not investigate the social context of the use of information sources nor describe the social milieu in which networks exist nor the content of the messages passed by opinion leaders. Although such complex matters cannot be understood without more elaborate research than that currently pursued, examination of the literature does reveal an interesting common theme. Practitioners and applied health workers make relatively little use of any information sources except, perhaps, oral ones.

The Uninformed Health Professional

Questionnaires asking physicians about recent medical developments indicate low levels of awareness. For example, a study by Stross and Harlan[28] found that only 33% of their sample knew of a significant development in the treatment of diabetic retinopathy. Of these over two thirds had heard of the development from a colleague while only 35% had read about it in a journal. In a study by Williamson et al[32] one fifth to one half of a sample of practitioners were not aware of or not using a particular advance in diabetic control. Information deficiencies are also evident in studies in which the knowledge of physicians is assessed by examining prescriptions. Manning et al[14] and Clintworth[5] suggest that inappropriate substances and dosages are often given and that obsolete treatments are frequently prescribed.

Writers associate the failure of the physicians to be well-informed with use of inadequate sources and neglect of current literature. Stinson and Mueller[27] report that physicians most commonly resort to their personal libraries and unsolicited medical literature for information. Institutional libraries are a rarely used third choice. Moreover, practitioners spend an average of only 5.5 hours a month reading journals and 2 hours reading textbooks. Northup et al[20] note that physicians rely most heavily on books and then on professional colleagues and journals but that most of the written materials are personally owned. These findings are problematic in view of Covell's[7] remarks about problems that physicians have in finding accurate information because of "age of textbooks..., poor organization of journal articles, inadequate indexing of books and drugs reference sources, and the time required to find appropriate information."

Not only do health professionals make comparatively little use of literature in general but they neglect libraries in particular. Underuse of libraries starts early in a health worker's career. Pelzer and Leyden[23] note that students in veterinary science use the library mainly for studying and photocopying and that they rely on textbooks and handouts rather than using library resources such as indexes, abstracts, and guides to the literature. The authors suspect that the students will not have the skills to keep themselves current in new developments once they enter practice. They suggest that medical students are better prepared but Northup[20] et al point out that medical school syllabi often provide references and that faculty specify follow-up readings with the result that students do not develop skills in literature searching.

Evidence that practising physicians make little use of libraries is found in Stinson and Mueller's survey[27]. Neglect of libraries is also implied in a study defending the relevance of hospital services to clinical decision-making. Marshall[17] requested 448 physicians to ask a librarian for information relevant to a current clinical case and assess whether its receipt affected treatment. Of the 208 physicians who replied, 80% claimed that the information had some impact on subsequent patient care. Clearly this demonstrates that library information can be highly beneficial to doctors and their patients. However, the study prompts other questions. Many doctors did not take part in the study because they did not use a library and it is possible that others who made excuses also did not do so. Even among those that took part, the majority of the sample used it less than once a week. Clearly, the Rochester library is a valuable resource but underused.

Contexts of Information Seeking

To explain patterns and limitations on information use, it is essential to examine the way in which information-seeking is related to socio-cultural context. Among writers on library science, Paisley[22] has insisted on the necessity of understanding the work environment as it impinges on information needs, and practical research supports his position. Each profession and academic specialty has its favoured information sources, search strategies, and styles of collegial communication[26,29].

There are few studies that show how information needs of practitioners in the health professions are grounded in social context. Lor's[12] report on the information-seeking behaviour of South African general practitioners is a rare example of such a study but is rather dated. Nevertheless, there are a few studies that describe the immediate contexts in which members of particular groups seek information. Northup et al[20] used the critical incident technique to collect a sample of information-seeking incidents by hospital physicians. They collected data on why the information was needed, how quickly it was needed, its specificity, the resource used, its location, and how the resource was known. While their data does not

reveal how the incident fitted into the individual's other information-seeking behaviours or daily working life, it does give an idea of types of material the physicians generally seek and the reason they are needed. Motivation for information-seeking includes patient care problems, general care, curiosity, patient education, and research. In this study, some 80% of the information required related to some aspect of patient care.

Interviews with physicians in general practice by Williamson et al[32] also reveal that though curiosity prompts some information-seeking, questions emerge predominantly through interaction with patients. While interviewing physicians about information needs, Williamson et al[32] discovered that "their priorities for information needs related to clinical decision-making." Advances in drug information were the most commonly needed. Other often-required information involved laboratory tests, patient health education, and health care costs. The practical nature of physicians' needs is again evident in a study by Covell et al[7] which analyzes the self-reported information needs of 47 physicians in office practice. The practitioners generated some 269 questions related to patient care. Most questions concerned specialties other than their own and were very specific. Their information needs were for immediate, concise, authoritative material about prescriptions, drug interactions, and alternative therapies.

Corcoran and Graves[6] assessed the precise needs of nurses in preparation for records automation. All information-seeking behaviour undertaken by a sample of nurses during two hour periods was recorded. As with the physicians, there was a predominance of questions relating to patient care. The difference found between doctors and nurses is that the majority of the nurses' questions are answered by colleagues or from records rather than from the written materials that physicians use.

Information Needs and Their Satisfaction

Krikalas[11] notes that individuals need different kinds of information at different times. He gives the example of a scientific researcher who may need to know: what other scientists are doing; a specific piece of information; a survey of all the material on a given subject. Individuals in applied disciplines also need these kinds of information but with different frequencies.

In the health sciences, there is considerable difference in information needs between researchers and practitioners. Unfortunately for practitioners, researchers write the bulk of the literature. They write as experts, primarily for their colleagues in the same field who evaluate their work in terms of their expertise. In contrast, non-specialist practitioners rarely write. They often seek information about subjects that they know little about and approach the literature as students. They need accurate, quick reference material. Often, nurses and physicians may require in depth material about particular subjects for background studies, topics of

personal interest, or in association with CE courses. The need for specific items of information occurs much more frequently during practice. The different needs of researchers and practitioners are not emphasized in the literature but understanding them is a prerequisite for appreciating problems that practitioners encounter in satisfying their information needs.

Constraints on the Use of Information Sources

Peltzer and Leyden[23] note that whether students had bibliographic training seemed to have no effect on their pattern of library use. This implies that underuse of literature is not necessarily the result of bibliographic ignorance. Moreover, students in the health sciences are presumably intelligent enough to learn about library resources if they feel the need. Studies support the contention that neglect may occur because little information is available in a format which practitioners can easily use.

One factor is "the principle of least effort" which Bierbaum[3] restates for libraries, "An information retrieval system will tend not to be used whenever it is more painful and troublesome for a customer to have information than not to have it." An article by Bernstein and Watson[2], promoting the use of GRATEFUL MED to access MEDLINE plays on this cost-benefit aspect of searching. The authors realize that physicians can get by without accessing literature. However, they explain that practitioners can be found negligent for not accessing computerized information and would be wise to place literature searching higher on their list of priorities.

The reasons why Gretch's law applies to literature searching are supplied in Huth's[10] commonsense summary of the reasons for the general neglect of literature:

There is a heavy cost in time for searching journal literature and retrieving papers. Much of the retrieved literature is likely not to be directly relevant to the problem being considered. Too much time is needed to digest and synthesize what is relevant, valid, and worth further attention. Physicians without special training find judging the validity of articles difficult.

Huth[10] agrees that using GRATEFUL MED is a practical solution to the time problem associated with keeping abreast of medical literature. However, a study by Marshall[18] suggests that the benefits of accessing online medical databases are limited. Some problems experienced by physicians in a trial involving online searching were related to initial difficulties with the use of hardware and software and to the time needed to learn the system. These would probably have been eased if GRATEFUL MED had been available to the sample. However, other problems such as the time required to search for information and the inappropriateness of the data base for answering clinical questions are not related to technology. Marshall reported that many physicians said that they would not continue using the online service after the trial because of the expense involved. Since physicians

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are relatively well-paid, this might be interpreted an another example of Mooer's Law.

Murray-Lyon[19] and Williamson et al[32] report that journals providing reviews are most popular with family doctors. The more scholarly journals are respected and considered authoritative but are rarely read. The reason for preferring the review format may relate to time constraints. However, it is probable that the attraction of review articles is that they provide physicians with concise evaluations of new developments.

The major problem for health science professionals is that specific questions that arise from consultations with patients cannot be easily answered with current reference sources. The information needed may be available but it cannot be retrieved quickly enough or in a form which will help the practitioner when he or she requires it. While a physician may make profitable use of both libraries and literature in general to research a particularly interesting or pressing problem, many questions go unanswered for lack of time, because of the disproportionate effort involved in locating usable information, or because the physician may not have the expertise to evaluate the information that is found. The situation among general practitioners described by Covell et al[7] may well result from these problems. Of the patient-care questions collected during his study, only 30% were answered during the patient's visit, usually by another physician. It is unclear if the remainder were ever answered. The effect on the patient is open to speculation.

Williamson et al[32] carried out a survey on "Health Science Information Management and Continuing Education of Physicians" at the request of the Massachusetts Medical Society. Some two thirds of the sample found the volume of literature unmanageable and a significant portion thought the extraction of information was a problem. Time was the most important reason. Other reasons included the sorting out of irrelevant material, the adequacy of terms in Index Medicus and journal indices, and the technical language used in journals. Williamson's conclusion is that science information management is a critical professional skill that is not adequately taught in undergraduate education and that a concerted effort is needed to help solve this problem. He did not address the possibility that the literature, as much as users, is at fault. It seems to be taken for granted that health professionals should be educated to use the literature rather than that literature should be tailored to meet their needs.

Except for a few journals that cater to practitioners, medical literature is written by researchers for researchers and emphasizes tentative conclusions from clinical trials. The physician is left with the responsibility of evaluating new treatments before applying them in particular patient-care situations. As a result, even if they read articles, physicians may not modify their treatment of patients. Given the theoretical nature of much of the literature, practising physicians

may not remember details of studies that they cannot easily apply. Studies designed to test doctors' knowledge of recent developments find that many are unaware of them even when they claim to read journals that report them[19,28].

Strategies for Solutions: The Role of Libraries

Our knowledge of the information-seeking behaviour of physicians and other health workers is still imperfect. Before librarians can make truly informed decisions about the type of information sources health professionals need and the part libraries should play in satisfying them, they must carry out focused research. This must go beyond large-scale surveys that report broad characteristics of artificial classes and answers to predefined questions. Methodologies must be adopted that deal with the information-seeker as an individual operating in a specific socio-cultural environment. Medical libraries are excellently placed for the assessment of needs of their users. Clinical librarians as described by Marshall and Hamilton[15] have necessarily developed such qualitative research skills as participant observation in the course of their work. Their expertise might be expanded to investigate the needs of potential clients outside their institutions.

Some unanswered information needs are evident now. Traditionally, libraries and the majority of the medical literature have served medical research rather than practice. Marshall's study[17] shows that material beneficial to the practitioner is in the library. The problem is that it is not accessible in a form that can be easily assimilated and applied. A first concern then, is to provide information both in appropriate locations and forms.

First, practitioners need to access information in the workplace. They cannot visit the library each time a question arises. Health sciences libraries must extend themselves beyond the facilities in which they are housed. They can do this directly by providing services via phone or computer and indirectly by providing information about new databases and reference tools and how to use them. Libraries can also involve themselves profitably in the routine provision of information courses for health professionals. For example, health science libraries could give instruction in GRATEFUL MED and MEDLINE to the medical community in general. In addition, libraries might adopt Huth's[10] suggestion and act as coordinators for database collections of critical reviews of articles by local journal clubs.

Another area where a library might perform useful service is in terms of advice for generating helpful personal libraries. If physicians persist in using their own libraries as their major information resource, then as Covell[7] states, they should learn basic skills for the acquisition and efficient organization of data.

A fundamental problem is lack of suitable databases. Medical libraries might begin by acquainting the publishers of journals and databases with their client's needs for

Information-Seeking Patterns of Health Science Professionals

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Information-Seeking Patterns of Health Science Professionals

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* I would like to thank Joanne Marshall and Ray Banks for their advice and encouragement during the preparation of this paper.

up-to-date authoritative, concise, pragmatically relevant information. Larger libraries might also consider providing further services in terms of specially-tailored databases or expert systems[4]. Physicians might find it useful to access these and the library's catalogue through their home computers. Austin[1] summarized the kinds of technical developments that the health science library might take advantage of in the future to establish relevant information services for health-workers both inside and outside their institutions.

Some changes have begun to take place. MEDLINE increasingly provides abstracts of articles. Full-text services, which allow users immediate access to entire articles are also becoming more common. Of particular significance for practitioners is a move to make abstracts more an evaluation than a summary of an article and the introduction of journals disseminating the work of journal club contributions.

In a world of complex communication, health science libraries are underused when they confine their provision of information to their local boundaries. Many of those who need information cannot come to them so they must serve their clientele in other ways. The patient care centred activities of health workers require the provision of immediate usable information. Libraries can help these people best by acting as information experts and purveyors of meta-information, and as teachers who advise about sources of knowledge and how to access them efficiently. They can, to some degree, supply information sources themselves online.

Practitioners themselves have a responsibility to be informed. They must become bibliographically literate. The impacts of the failure of health workers to acquire specific information are incalculable. Because they are the experts in their fields, they must collaborate with librarians and other information experts to access efficiently the information that they need. ■

Report from Ontario

The New Ontario Health Professions Legislation and Its Implications for Ontario Libraries

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The *Regulated Health Professions Act of Ontario* (RHPA) and the 21 separate acts regulating each profession received royal assent late in 1991[1]. This legislation will revolutionize the delivery of health care in Ontario by imposing a new model of regulation[2]. Moreover, as core competencies are defined for each profession, the impact of RHPA will also be felt in the education community[3]. And since several new professions are being regulated, there are bound to be turf wars, especially with the numerically dominant nursing profession[4].

As health sciences information professionals and, indeed, as consumers of health care, we all have a responsibility to familiarize ourselves with the RHPA and with the situation it will create. This essay will highlight the central features of the new regulatory process and point out some specific opportunities for library services. I believe there will be a significant increase in the volume of service demands. The situation is further complicated because for some of these professions, especially the medical technologies, there are few directly relevant studies of their information needs[5,6].

This legislative package of an omnibus act and 21 separate acts culminates 15 years of continuous consultations between government, health care groups, patient rights activists, and consumer groups. In a nutshell, RHPA deals with the powers of the Minister of Health in relation to the governing professional bodies (colleges), the nature and power of the colleges, discipline and fitness to practise proceedings, complaints, continuing competence, title protection and limitation periods[7,8].

The most visible impact of the new regulatory system will be the replacement of the current hierarchical, male-dominated, monopolistic structure with a new model described by one of its chief architects as "...more egalitarian...more precise...more flexible, and it is more easily enforced"[2]. Rather than licensing professions, the new system controls potentially harmful acts. In total there are 13 categories of controlled acts, which, not unexpectedly, are generally invasive procedures. However, managing labour and conducting deliveries, prescribing drugs, corrective eyewear and hearing aids, also are categorized as controlled acts. Finally, the communication of a diagnosis is a controlled act within the scope of practice of physicians, dentists, psychologists, optometrists, chiropractors and podiatrists.

From the point of view of the consumer, the new regulatory system is intended to stimulate choice of options in respect to providers of competent health care. "To put it crudely, Ontario cannot afford a system in which, because of professional licensure, higher priced help must do work that would be performed as safely and effectively by lower priced help"[2]. The health care consumer will still use restricted titles to distinguish the players. It may be asking too much of the general public to be able to differentiate between a dietitian, which is a restricted title, and a nutritionist, which is not protected by RHPA. More significant however is the fact

The New Ontario Health Professions Legislation and Its Implications for Ontario Libraries

(continued)

that seven new professions will now be regulated; i.e., audiologists, dietitians, medical laboratory technologists, midwives, occupational therapists, respiratory technologists and speech-language pathologists. The ultimate justification for this new regulatory system is the protection of the public interest rather than advancing the interests of the professions[7].

The designers of this new regulatory system established four goals for advancing the public interest:

- Protecting the public from unqualified, incompetent and unfit health care providers;
- Developing mechanisms to encourage provision of high quality care;
- Permitting the public to exercise freedom of choice of health care providers within a range of safe options;
- Promoting evaluation in the roles played by individual professions and flexibility in how individual professionals can be utilized, so that health services are delivered with maximum efficiency[8].

The dynamics of the regulatory process will be driven by the colleges and their advisory councils, which shall have public representation. Complaints to the colleges by individual consumers will also drive the regulatory process, as will future amendments to the legislation. To a large extent, the colleges' self-regulatory functions, (registration, quality assurance, and investigative powers) serve to prevent problems from occurring.

What does this mean for libraries? For the immediate consideration, health sciences libraries must be prepared to deal with obvious problems such as acquiring copies of the legislation and background documents. In terms of collection development, the definitions of scope of practice cited in each act could be used as a criterion to evaluate and/or build library collections. Furthermore, as currently working professionals will have to demonstrate competence upon initial registration with their College, many may want/need self-assessment review books. For those libraries equipped to provide public access personal computers there are many computerized questions banks, some surprisingly inexpensive, that could be used for self-assessment. Libraries should also be prepared to offer guidance to the structure of health literature.

Since there may be thousands of allied health professionals working in private laboratories or in private practice, and many of these may be without access to a hospital library, there is a potential for a crisis for these individuals. These new demands for services coincide with severe budget constraints imposed by the provincial government. Therefore, be prepared to persuade your administration of the need for charge-back mechanisms, if these are not already in place.

While medicine, nursing, pharmacy, and dentistry are fortunate in having access to academic, society, and respective professional college library services, the other professions are not. For the new colleges, there will be a need for access to

published standards, all kinds of statistical information, codes of ethics, clinical protocols, literature reviews, online searches, lists of educational programs, access to case law reports and perhaps even access to the consumer health literature. Unless some of the new colleges pool their resources to develop library services, and in the absence of a single provincial resource equipped to handle their information needs, this situation presents a golden opportunity for freelance information professionals. Of course, there is always a possibility that some allied health educational institutions will come to see their libraries as strategic resources. Perhaps open eyes will open purses.

The new colleges and the existing professional associations will have to recognize that publicly funded educational institutions are already subsidizing their competitors, chiefly the private correspondence schools. These private correspondence schools offer programs at cheaper rates because they can operate without such overhead expenses as library services. The new colleges and the professional associations have an obligation to share the cost of providing library services for those groups lacking significant provincial resources, and not simply leave it to the public educational institutions.

Finally, in terms of long-range responses, the health sciences library community must be prepared to conduct research into the information seeking patterns of allied health professionals. Furthermore, we must be willing to find out what the library's role is in the continuing education of allied health professionals. The most current studies focus upon physicians[9,10].

The new legislation attempts to come to grips with complex economic, political and social issues as they relate to professional work, legislation, and the public good. By controlling potentially harmful acts, by defining core sets of knowledge, skill and judgement, by structuring the self-regulatory process, by extending the range of health care delivery options, by insisting on quality assurance activities, and by creating opportunities for public participation and complaint handling, competing forces are held in balance. On the one hand authority and autonomous action on the part of the professions is assured. And on the other hand the public's need for safety, legitimacy and trust is met. All of us are fortunate to be witness to the sociological drama of professionalization[11].

These behaviours and formal communication patterns present new opportunities for the health libraries. The requirements of initial registration may trigger massive continuing education and/or educational upgrading efforts, and there will obviously be a need for resources. As the various colleges are instituted, there will be a need for research support. In the inevitable turf wars, some of the nascent and smaller professions will be at a decided disadvantage against other professions that already possesses an impressive body of scientific literature[12]. Before they get to that point, they will need the benefit of an educational program to make them aware of how their needs can

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The New Ontario Health Professions Legislation and Its Implications for Ontario Libraries

(continued)

be met. In the long term, the dynamics of professionalization will stimulate publication. The health libraries community must ensure that there is good bibliographic control over these new publications. Without it, there will be poor access, aggravating the already "tenuous" connection between "generating new knowledge in medical research and putting that knowledge to use in medical practice"[13]. Access to information is in everyone's interest. ■

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CHLA/ABSC Fact Sheet No. 13

Viruses of the computer kind!

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Michelangelo, Stoned, Jerusalem, Joshi, Dark Avenger, Evil Empire.

These are the names of just a few of the rapidly increasing number of computer viruses that exist to make your life miserable. Just as a flu virus can ruin your day so too can a computer virus that attacks your computer. What are these computer viruses? How does one protect against them? How do you get rid of them? These are issues with which all responsible computer users need to be familiar.

Viruses and Libraries

From a librarian's viewpoint there is even more need to be aware of and guard against computer viruses than the normal computer user. A hospital library might well keep vitally important files on a microcomputer such as the library catalogue, order records, financial records and important reports. A malevolent virus can destroy all of these files or make them unusable.

A library also commonly has microcomputer workstations available for public use. Infected workstations can pass viruses on to users' computers which can possibly infect their computers and destroy files. In order to protect your own files and avoid the extreme embarrassment of infecting users' computers all libraries need to protect against computer viruses.

Understanding Computer Viruses

Computer viruses are computer programs designed to interfere with the normal performance of a computer system. With the popular explosion of use of personal microcomputers since the early 1980's the number of viruses has grown and continues to expand. This fact sheet addresses viruses normally found in the personal computer environment but it is useful to remember that viruses exist and are threats to larger computer systems as well. A famous example of a computer virus was the "worm" program that infected the **INTERNET** computer communications system in 1988 and brought the network to its knees in a matter of hours.

Computer viruses are spread through contact between computers. In the personal microcomputer world there are two common categories of viruses: boot sector viruses, which spread by insinuating themselves into the boot sectors of floppy disks, and file viruses which spread by infecting a file (normally an .COM or .EXE file). A boot sector virus can spread from a floppy disk to a hard disk by causing the boot sector of the hard disk to be rewritten and then infecting other floppy disks that are used on the infected machine. A file virus works by loading itself into the computer's memory when the infected file is run and then spreading itself to other program files when they are run.

CHLA/ABSC Fact Sheet No. 13

Viruses of the computer kind!

(continued)

Normally, infection is caused by placing an infected floppy diskette into an uninfected machine or by running an infected program file on the uninfected machine. Major sources of infected files have been bulletin board systems and other sources of public domain software. It is also not uncommon to receive viruses through commercial software. It is not done on purpose, but if the originating companies' computers are infected with a virus it will be passed on to your computer if you do not take precautions.

The damage that a virus can inflict depends upon the design of the virus. Some are relatively unobtrusive while others are designed to totally destroy all information stored in your system. The *STONED* virus displays the message "Your PC is Now Stoned!", may overwrite your hard disk file allocation table (an essential part of your hard disk management system) and make it difficult to retrieve files from infected floppy diskettes. This is relatively minor. A virus such as the *MICHELANGELO* virus overwrites the first 9 MB of an infected hard disk on March 6, Michelangelo's birthday. The overwritten data cannot be recovered and is a more serious threat. Even more dangerous is a virus such as *DARK AVENGER* which infects .COM and .EXE files. After a certain number of infections it overwrites a random hard disk sector of infected machines, cross-links files, damages the hard disk file allocation table and performs other damaging activities. Since it performs these activities on an irregular basis it may take quite a while to notice that something is wrong with the infected system.

Planning for Protection Against Viruses

The key to protecting against computer viruses is the use of a good anti-virus program. As the number of viruses has increased so to has the number of commercially available anti-virus programs. These programs use a number of techniques to identify and attempt to remove viruses. The degree to which a virus can be removed without losing information depends upon the nature of the virus.

Unfortunately no program can protect against all viruses since the viruses change quickly and new ones are appearing regularly. The following are points to consider in protecting against viruses.

- Assess the level of threat to your systems. If you have important files on the machines, regularly transfer files with floppy diskettes, down load files from other systems or permit public access to the machines you are in a high threat situation.
- Remember that no anti-virus program can stop all viruses. It is important that the vendor of the anti-virus program has a system for providing periodic updates to deal with new viruses and/or "mutations" of known viruses.
- Disciplined and systematic use of anti-virus programs is required. It does no good to try to use an anti-virus program after your hard disk has been

***** Note *****

This Fact Sheet is also included in detached form with this issue of ***BMC.***

scrambled by a virus. The anti-virus software must be installed and regular checks made to ensure that no virus has infected the computer.

- A memory resident virus monitor should be installed on all high threat machines. This is particularly true for public machines. Sometimes this is not possible due to conflicts between the virus monitor software and legitimate programs.
- The key to surviving a computer infection with your sanity intact is to have good backup procedures for your computer systems. If you lose information to a virus attack you can restore it from previous backups (as long as they too are not infected)!
- Avoid transferring files by floppy diskette. This reduces the threat from boot sector viruses.
- Discourage or forbid the use of game or personal software on library machines. Games and utilities down loaded from bulletin board systems are a common source of virus programs. If they are to be used on library machines they should be scanned for viruses before installation.
- Avoid installing software of which you are not sure of the source.
- Apply write-protect tabs to all program diskettes before installing new software. If the installation program requires writing to the program diskettes write-protect the diskettes immediately after installation.
- Any software diskettes loaned to library users should be scanned for viruses upon return.
- Contact your institution's computer support staff to see if your institution has a site licence for a particular brand of anti-virus software. The need for such software is so common that most large institutions do arrange for site licences. The computer support staff may also be a valuable source of information on how to protect against viruses.

Sample Anti-Virus Software

On this page are brief listings for three of the best known anti-virus software. There are now over twenty commercial anti-virus programs available for PC compatible computers. The prices given are list prices current as of July, 1992. ■

Producer	Software Name	Price (U.S. $)
Central Point Software	Central Point Anti-Virus	$129
McAfee Associates	VirusScan	$15-$35
Symantec	Norton AntiVirus	$129

For More Information

As viruses have become more of a threat there has been an increase in the information available about them and anti-virus software. The following sources are suggested as places to begin looking for information about this topic. Computer magazines such as *PC Magazine*, *PC World* and *BYTE* periodically do reviews of anti-virus software.

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We are now requesting submissions for the contributed papers session. If you or your library have developed an innovative program, conducted interesting research, or have a new approach to providing traditional services, consider sharing your findings with your colleagues. To be considered for the session, please submit a short abstract (250 words or less) by November 30, 1992.

A poster session is also being planned for you to share projects and research results in a more informal way.

Abstracts, or requests for further information, should be sent to:

Barbara Hatt, Conference Co-Chair
Hospital Library
Alberta Children's Hospital
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Envoy: CHLA

A batch of CHLA/ABSC mail apparently went missing around March 1992. With the recent address change, it may have been lost in transit from one post office branch to the other. Canada Post has been unable to locate any missing items.

If you receive a second membership renewal notice despite having already sent in your renewal cheque for the 1992/93 year, please ensure that the first cheque has been cashed. Your payment may not have been received at the Secretariat Office.

If you will be renewing with the second notice, please remember to fill in your telephone, fax, envoy and e-mail information. Networking is a priority! Look for expanded e-mail information in the next membership directory.

Thank-you

Report of the CHLA/ ABSC -CCHFA Liaison on Health Care Facilities Library Standards

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ENVOY: ILL.OORO

I am pleased to report for 1991/92, the first year I have served as representative to the CCHFA. I have been fortunate to be able to call upon my predecessor, Jan Greenwood, for background information and support from time to time. The Board, Chapter Presidents, and individual librarians have been very supportive.

Major issues have been reported on extensively in BMC 13(3) and 14(1). I believe that the challenges in the upcoming year in relation to revising Acute Care/Long Term Care standards for 1994 will be the ongoing one of ensuring that no hierarchical relationships between other services and library services are implied.

The other challenge is to convince the CCHFA that the qualifications of Director of Library Services categorically are a Master of Library Science degree.

At the Board of Directors meeting of CHLA/ABSC, I proposed that our strategy for 1992/93 should include a public relations campaign in relation to the major stakeholders of CCHFA regarding the value of library/information services. These stakeholders include institutions that are accredited, and members of the Board of Council, for example CMA, CNA, RCPSC, the Canadian Long Term Care Association, the College of Family Physicians of Canada, the Canadian College of Health Services Executives, the CHA, and the Association of Canadian Teaching Hospitals.

Possibilities include the distribution of an information kit including a portfolio of articles on the value of library/information services to key personnel in facilities and to members of the above mentioned organizations, and participation at national conferences of these organizations, possibly by mounting a booth display.

It was agreed that a small ad hoc committee consisting of the representative to CCHFA, the CHLA / ABSC Public Relations officer, and others would explore the feasibility of this approach, and project a budget for consideration.

As well, I will be contacting MLA members who are collaborating with the JCAHO. As you may know from a recent issue of *MLA News*, in 1994 the JCAHO will be taking an organized approach to information management functions instead of mandating specific departments (for example, libraries), in the health care facility. There is currently an information management task force of the JCAHO, and the task force includes librarians, physicians, nurses, medical record administrators, and information system specialists. This is a model to watch! ■

From the Health Sciences Resource Centre

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Envoy: OTS.MH

DOCLINE Pilot Project in Canada

DOCLINE is an automated interlibrary loan request routing and referral system developed by the U.S. National Library of Medicine. Introduced in 1985, the system is currently used by more than 1,900 libraries in the U.S. Participation has so far been restricted to U.S. libraries.

In 1991, negotiations were conducted between CISTI, the NLM and some Canadian medical libraries that had indicated an interest in DOCLINE, resulting in the Canadian DOCLINE pilot project earlier this year. As of this writing, the University of British Columbia, the medical library of the University of Calgary and the British Columbia Medical Library Service, in addition to CISTI, will be participating in the DOCLINE pilot project as resource libraries. In both Alberta and British Columbia, some smaller hospital libraries will be joining the DOCLINE network as well.

To participate in DOCLINE a library is required to report its serial holdings to NLM's SERHOLD database. For some libraries, finding the resources to contribute their serial holdings in a format that conforms to NLM's technical specifications is not an easy task. Consequently, CISTI has undertaken a project whereby the cataloguing records of MEDLINE and Health titles found in *Canadian Locations of Journals Indexed for MEDLINE* are modified for SERHOLD reporting purposes. In revising the serial record in the UNION LIST database on CAN/OLE, it is also possible to extract any participating library's record and send the records in tape format to NLM. As of today, two western libraries, the Woodward Biomedical Library of UBC and the Medical Library of the University of Calgary, have requested CISTI to submit on their behalf their serial records on UNION to NLM. CISTI charges a nominal fee for the generation of the tape.

Why are libraries interested in DOCLINE?

DOCLINE is a very sophisticated automated interlibrary loan system which will promote more effective sharing of resources. Also, the LOANSOME DOC feature of GRATEFUL MED will enable health professionals to request library materials easily and quickly from their primary libraries, but this feature will only work when a library is a DOCLINE participant. In addition to being the major resource library in the country, CISTI will also be responsible for coordinating the Canadian DOCLINE libraries network and for reviewing all routing tables. We hope that we will be ready to send/receive ILL requests later this year. Progress on this project will be reported in future BMC issues.

New CISTI Publications

From the Health Sciences Resource Centre

(continued)

Union List of Scientific Serials in Canadian Libraries

Print Version: 1992 16th ed.
– NRCC no. 33917: $350

Canadian Locations of Journals Indexed for MEDLINE

1992: 20th ed.
– NRCC no. 34189: $65

All orders must be prepaid. Cheques should be made payable to the *Receiver General of Canada, credit NRCC.* Payment may also be made by NRC deposit account, VISA or MASTERCARD. Please allow 4 to 6 weeks for processing.

Order from:

Publication Sales & Distribution
Building M-19
National Research Council Canada
Ottawa, Ontario K1R 0R6
Telephone: (613) 993-2054
FAX: (613) 957-9828
NRCC no. 33917: $350

Du Centre Bibliographique des Sciences de La Santé

Maureen Wong

Centre bibliographique des sciences de la santé
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Fax: (613) 952-8244

Envoy: OTS.MH

Projet-pilote DOCLINE au Canada

DOCLINE est un système d'orientation et d'acheminement des demandes de prêt entre bibliothèques conçu par la U.S. National Library of Medicine (NLM). Lancé en 1985, le système est actuellement exploité dans plus de 1900 bibliothèques américaines, celles-ci étant, à ce jour, les seules y ayant accès.

En 1991, des négociations entre l'ICIST, la NLM et certaines bibliothèques médicales canadiennes qui ont manifesté un intérêt particulier pour DOCLINE ont mené au projet-pilote canadien DOCLINE, déployé plus tôt au cours de l'année. Au moment d'écrire ces lignes, l'Université de la Colombie-Britannique, la bibliothèque médicale de l'Université de Calgary, le British Columbia Medical Library Service ainsi que l'ICIST comptent parmi les bibliothèques-ressources prévues au projet-pilote DOCLINE. En outre, quelques petites bibliothèques médicales d'hôpitaux de l'Alberta et de la Colombie-Britannique s'ajouteront aussi au réseau.

Si une bibliothèque veut participer à DOCLINE, elle doit ajouter son catalogue à la base de données «SERHOLD» de la NLM. Toutefois, pour certaines bibliothèques, la levée des fonds nécessaires à la soumission de leur catalogue à la NLM selon les normes prescrites est un obstacle de taille. C'est pourquoi l'ICIST a lancé un projet selon lequel les notices de MEDLINE et celles du domaine de la santé relevées dans *Dépôts canadiens des revues indexées pour MEDLINE* ont été modifiées pour respecter les normes SERHOLD. En apportant certaines corrections au registre des périodiques de la base de données UNION LIST de CAN/OLE, il est aussi possible d'extraire le catalogue des différentes bibliothèques participantes et de les faire parvenir, sur bande magnétique, à la NLM. À ce jour, deux bibliothèques de l'Ouest canadien, soit la Woodward Biomedical Library de l'Université de la C.-B. et la bibliothèque médicale de l'Université de Calgary, ont demandé de se prévaloir de ce service, pour lequel l'ICIST demande une somme nominale.

Pourquoi les bibliothèques sont-elles intéressées à DOCLINE?

DOCLINE est un système automatisé haut de gamme de gestion de prêts entre bibliothèques qui permet une exploitation optimale des ressources. En outre, la fonction de prêt LOANSOME DOC sur GRATEFUL MED permettra aux membres du domaine de la santé de commander facilement et rapidement des documents auprès de leurs bibliothèques principales. Cette fonction ne pourra toutefois être étendue qu'aux bibliothèques inscrites à DOCLINE. L'ICIST, la bibliothèque-ressource principale du pays, sera aussi responsable de la coordination du réseau des bibliothèques canadiennes de DOCLINE et de la révision de toutes les tables d'acheminement. Nous espérons pouvoir transmettre et recevoir des demandes de PEB dès cet automne. Nous vous tiendrons au courant de l'évolution du projet dans les prochains bulletins MEDLARS Canada. ■

Les nouvelles publications de l'ICIST

Du Centre Bibliographiquedes Sciences de La Santé

(suite)

Catalogue collectif des publications scientifiques dans les bibliothèques canadiennes

Copie-papier : 1992 16e éd.
– CNRC n° 33917: 350 $

Dépôts canadiens des revues indexées pour MEDLINE

1992 : 20e éd.
– CNRC n° 34189: 65 $

Toutes les commandes doivent être payées à l'avance. Les chèques doivent être établis à l'ordre du *Receveur général du Canada, crédit CNRC*. Le paiement peut également être effectué au moyen d'un compte de dépôts du CNRC, les cartes de crédit VISA ou MASTERCARD.

Adressez vos commandes à :

Vente de distribution des publications
Bâtiment M-19
Conseil national de recherches Canada
Ottawa K1R 0R6

Téléphone : (613) 993-2054
Télécopier : (613) 957-9828

People in the News

Ontario Honors 11 Academics for Excellence

Ten Ontario professors and one librarian have received the province of Ontario's highest honour for excellence.

The recipients were presented with the Ontario Confederation of University Faculty Associations (OCUFA) Teaching Awards and the OCUFA Academic Librarianship Award at a ceremony at McMaster University on June 12, 1992.

Vivian Ludwin, Bracken Library, Queens University was the recipient of this award.

McGill University Library Career Recognition Award

McGill University was pleased to annouce that **David S. Crawford** has been awarded the 1992 Library Career Recognition Award.

After helping to create a network of health sciences libraries in Northern Ireland. Mr. Crawford came to McGill in 1972. Since then he has held a variety of positions in the Health Sciences Library and has recently been appointed Life Sciences Area Librarian (and Director of the Health Sciences Library). During his years at McGill, Dr. Crawford has participated in many university committees, task forces and projects and has served on the University Senate and several of its committees. He is presently a member of the Academic Salary Policy and the Committee on Student Discipline.

Outside the University he has been active in both the Medical Library Association and the Canadian Health Libraries Association. He was instrumental in founding CHLA / ABSC and has served as our President on two occasions. Since 1986 he has been Director of the McGill/Shenyang project which has created a valuable partnership between the China Medical University and McGill University. ■

Total Quality Management

an introductory course for librarians

Tuesday, October 27, 1992 — 8:00 am – 5:00 pm

Holiday Inn, King Street West, Toronto

Instructor: Holly Shipp Buchanan, M.Ln, M.B.A.
Presented by: Ontario Hospital Libraries Association

Limited attendance, register early. Registration fee of 115.00 includes lunch. Please make cheques payable to the OHLA.

Mail cheques to:

Louise Jin
St. Joseph's Health Centre
P.O. Box 5777
London, Ontario N6A 4L6

If you have any questions contact Louise by:

Tel: (519) 646-6000 ext. 5727
Fax: (519) 646-6006

Career Opportunities

Osler Library of the History of Medicine

Position Available

Applications are invited for the tenure track position of History of Medicine Librarian which will be available from June 1, 1993. Salary and rank will be commensurate with experience and qualifications. McGill University librarians have academic status and are thus eligible for sabbatic leave and tenure.

The Osler Library of the History of Medicine has a world renowned collection of over 40,000 rare books, manuscripts, and secondary works in the history of medicine and the health sciences. Its acquisition budget is about $60,000 per annum and the library presently has a staff of two librarians and three library assistants. The Osler Library is a part of the McGill University Library System and the History of Medicine Librarian is responsible to the Life Sciences Area Librarian, (who is also the head of the Health Sciences Library) for the management of the Osler Library. The History of Medicine Librarian is Secretary to the Osler Library's Board of Curators and reports to it on matters under its jurisdiction.

Candidates should hold an MLS degree from an ALA accredited library school, or equivalent, and have proven competence as a scholar in the history of medicine or allied subjects. Appropriate language knowledge necessary for scholarship in these fields is expected, a knowledge of French is required.

Applications should be in writing and must include the names and addresses of three referees. They should be received by November 15, 1992.

APPLY TO:

David S. Crawford, Life Sciences Area Librarian, Chair, Selection Committee, McGill University, 3655 Drummond Street, Montreal, Quebec, CANADA H3G 1Y6

In accordance with Canadian immigration regulations, this advertisement is directed in the first instance to Canadian citizens or permanent residents.

McGill University is an equal opportunity employer. ■

Job Exchange Position in Fremantle Australia

Position: Librarian in a hospital library
Duration: 9 - 12 months
Exchange: house, car

Fremantle Hospital is a 360 bed teaching hospital located in the port city of Fremantle. The Medical Library serves all hospital staff and has 3 professional librarians and 1 clerk/typist. It belongs to a regional network of hospital and university libraries for the purposes of a shared union catalogue and interlibrary loans.

The hospital is within a 5 minute walk of the centre of Fremantle which is known for its cosmopolitan atmosphere, its fishing fleet, old buildings and beaches. Perth city, the capital of Western Australia, is a 25 minute drive from Fremantle. Perth is one of the cleanest and prettiest cities in Australia, being on the banks of the Swan River, and having a good watercourse for sailing and boating.

For further information, please contact:

Cherie Cable, Medical Library, Fremantle Hospital, PO Box 480, Fremantle 6160, Western Australia ■

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Manuscripts

The editors of **Bibliotheca Medica Canadiana** welcome any manuscripts or other information pertaining to the broad area of health sciences librarianship, particularly as it relates to Canada.

Contributors should consult recent issues for examples of the type of material and general style sought by the editors. Queries to the editors are welcome. Submissions in English or French are welcome.

Contributions should be submitted **on disk, preferably in WordPerfect 5.1 format, and also printed in duplicate** and the author should retain one copy. Contributions should be **double-spaced** and **should not exceed ten pages or 3500 words**. Pages should be numbered consecutively in arabic numerals in the top right-hand corner. Articles may be submitted in French or in English but will not be translated by the editors or their associates. Style of writing should conform to acceptable English usage and syntax; slang, jargon, obscure acronyms and/or abbreviations should be avoided. Spelling shall conform to that of the **Oxford English Dictionary**; exceptions shall be at the discretion of the editors.

All contributions should be accompanied by a covering letter which should include the author's (typed) name, title and affiliations, as well as any other background information that the contributor feels might be useful to the editorial process.

References

All references should be given in the Vancouver style; see **Canadian Medical Association Journal** 1985;132:401-5. Contributors are responsible for the accuracy of their references. Personal communications are not acceptable as references. References to unpublished works shall be given only if obtainable from an address submitted by the contributor.

Illustrations

Any illustrations or tables submitted should be black and white copy camera-ready for print. Illustrations and tables should be clearly identified in arabic numerals and should be well-referenced in the text. Illustrations and tables should include appropriate titles. ■

Avertissement aux Auteurs

Manuscrits

Les rédacteurs de la **Bibliotheca Medica Canadiana** sont à la recherche de manuscrits ou d'autres renseignements portant sur le vaste domaine de la bibliothéconomie dans le contexte des sciences de la santé. Nous recherchons tout particulièrement des articles relatifs à la situation au Canada et à des thèmes d'actualité.

Si vous désirez nous soumettre un manuscrit, vous êtes prié de consulter quelques livraisons récentes de la revue pour vous familiariser avec le contenu et le style général recherchés par la rédaction. La rédaction recevra avec plaisir vos questions et observations. Les articles en anglais ou en français sont bienvenus.

Les articles devraient être remis **en deux exemplaires** et l'auteur devrait en garder une copie. Les articles devraient être **dactylographiés à double interligne et ne devraient pas dépasser six pages ou 3500 mots.** Prière de numéroter les pages consécutivement en chiffres arabes en haut de la page à droite. Les articles peuvent être remis en français ou en anglais, mais ils ne seront pas traduits par la rédaction ni par les associés de la rédaction. Le style d'expression écrite se conformera à l'usage et à la syntaxe acceptables du français; il est préférable d'éviter l'argot, les sigles et autres abréviations obscures. L'orthographe se conformera à celle du **Robert**; les exceptions à cette règle seront à la discrétion de la rédaction. Les auteurs qui désirent remettre leurs manuscrits sous forme électronique devraient communiquer à l'avance avec la rédaction afin de s'assurer que l'équipement compatible est disponible aux bureaux de la rédaction.

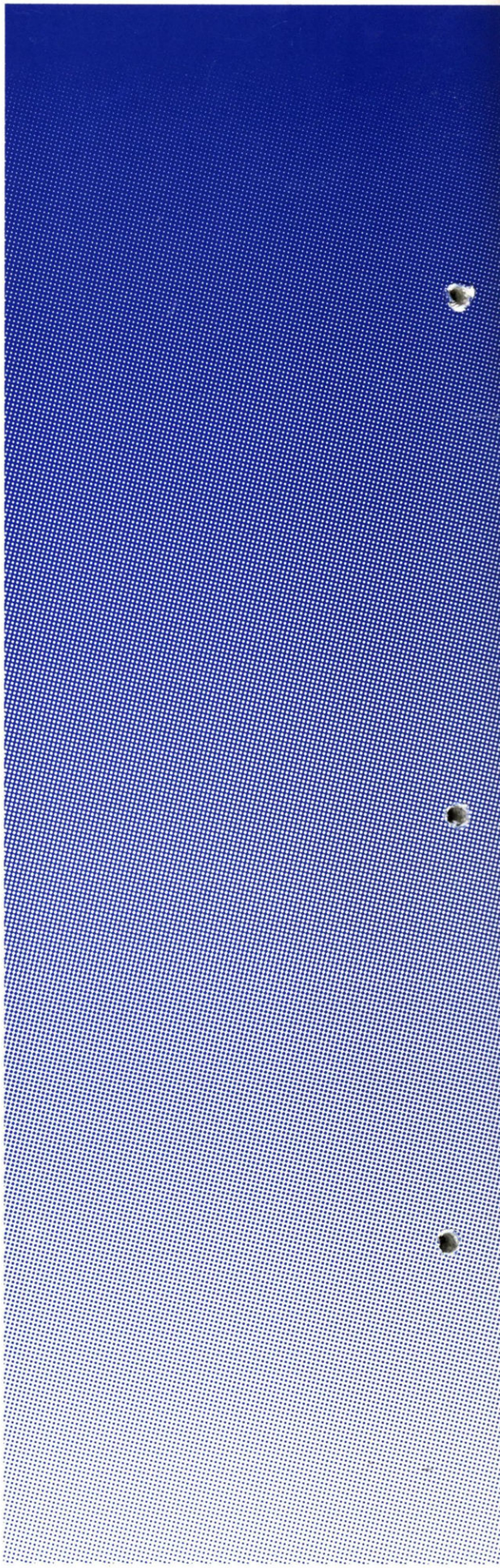
Tout article devrait s'accompagner d'une lettre explicative fournissant les informations suivantes : nom de l'auteur (dactylographié), son titre et lieu de travail, ainsi que tout autre détail que l'auteur jugerait utile à la rédaction.

Références

Toute référence devrait être citée selon le style dit de Vancouver; voir le **Journal de l'Association médicale canadienne** 1985;132:401-5. Les auteurs sont responsables de l'exactitude de leurs références. Les communications de nature personnelle ne sont pas acceptables comme références. Il ne faut citer une référence à un ouvrage inédit que si ce dernier est disponible à une adresse indiquée par l'auteur.

Illustrations

Les illustrations et les tableaux doivent être en noir et blanc, et prêts à l'impression. Les illustrations et les tableaux doivent être clairement identifiés en chiffres arabes et avoir des renvois clairs dans le corps du texte. Les illustrations et tableaux doivent comporter des titres pertinents. ■



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